

## CLAIMS

1. An automatic gain control circuit having a sync signal amplitude measuring means for measuring amplitude of a sync  
5 signal via a variable gain amplifier with an input of a video signal having the sync signal superposed; and a video signal amplitude measuring means for measuring amplitude of the video signal, the automatic gain control circuit comprising:
- 10 a control means for controlling the variable gain amplifier according to a first operation mode and a second operation mode, wherein the first operation mode controls a gain to maintain the amplitude of the sync signal measured by the sync signal amplitude measuring means at a  
15 predetermined first reference value, and wherein the second operation mode prevents the gain from being increased even when the amplitude of the sync signal measured by the sync signal amplitude measuring means is insufficient, and reduces the gain only when the amplitude of the video signal  
20 measured by the video signal amplitude measuring means exceeds a predetermined second reference value.
2. The automatic gain control circuit of claim 1, further comprising an operation mode switching means for switching  
25 to the second operation mode when, during operation in the first operation mode, the amplitude of the sync signal measured by the sync signal amplitude measuring means is

smaller than the predetermined first reference value and the amplitude of the video signal measured by the video signal amplitude measuring means is greater than the predetermined second reference value; and for switching  
5 from the second operation mode to the first operation mode when, during operation in the second operation mode, the amplitude of the sync signal measured by the sync signal amplitude measuring means becomes not less than the predetermined first reference value.

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3. The automatic gain control circuit as claimed in claim 2, further comprising a no-input detection means for detecting a no-input of the video signal, wherein the operation mode switching means switches from the second  
15 operation mode to the first operation mode when the no-input detection means detects the no-input during the operation in the second operation mode.

4. The automatic gain control circuit of claim 2, further  
20 comprising a signal source switching detection means for detecting switching of a source of the video signal, wherein the operation mode switching means switches from the second operation mode to the first operation mode when, during the operation in the second operation mode, the signal source  
25 switching detection means detects switching of the signal source.